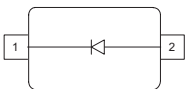


### Silicon Schottky Diode

- High current rectifier Schottky diode with very low  $V_F$  drop (typ. 0.24 V at  $I_F = 10\text{mA}$ )
- For power supply applications
- For clamping and protection in low voltage applications
- For detection and step-up-conversion



### BAT60B



**ESD:** Electrostatic discharge sensitive device, observe handling precaution!

Type	Package	Configuration	Marking
BAT60B	SOD323	single	white/5

**Maximum Ratings** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage <sup>1)</sup>	$V_R$	10	V
Forward current	$I_F$	3	A
Non-repetitive peak surge forward current ( $t \leq 10\text{ms}$ )	$I_{FSM}$	5	
Total power dissipation $T_S \leq 28^\circ\text{C}$	$P_{tot}$	1350	mW
Junction temperature	$T_j$	150	°C
Operating temperature range	$T_{op}$	-55 ... 125	
Storage temperature	$T_{stg}$	-55 ... 150	

### Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>2)</sup>	$R_{thJS}$	$\leq 90$	K/W

<sup>1</sup>For  $T_A > 25^\circ\text{C}$  the derating of  $V_R$  has to be considered. Please refer to curve Permissible reverse voltage.

<sup>2</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

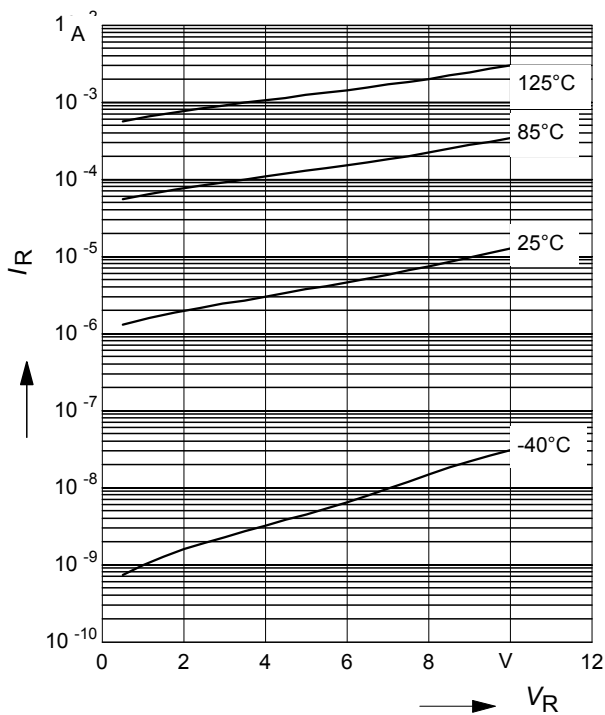
**Electrical Characteristics at  $T_A = 25^\circ\text{C}$ , unless otherwise specified**

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
Reverse current <sup>1)</sup>	$I_R$				$\mu\text{A}$
$V_R = 5\text{ V}$		-	5	15	
$V_R = 8\text{ V}$		-	10	25	
$V_R = 5\text{ V}, T_A = 80^\circ\text{C}$		-	100	800	
$V_R = 8\text{ V}, T_A = 80^\circ\text{C}$	-	410	1500		
Forward voltage <sup>1)</sup>	$V_F$				V
$I_F = 10\text{ mA}$		0.2	0.24	0.3	
$I_F = 100\text{ mA}$		0.26	0.32	0.38	
$I_F = 500\text{ mA}$		0.32	0.4	0.5	
$I_F = 1000\text{ mA}$		0.36	0.48	0.6	
<b>AC Characteristics</b>					
Diode capacitance	$C_T$	12	25	30	$\text{pF}$
$V_R = 5\text{ V}, f = 1\text{ MHz}$					

<sup>1)</sup>Pulsed test:  $t_p = 300\ \mu\text{s}; D = 0.01$

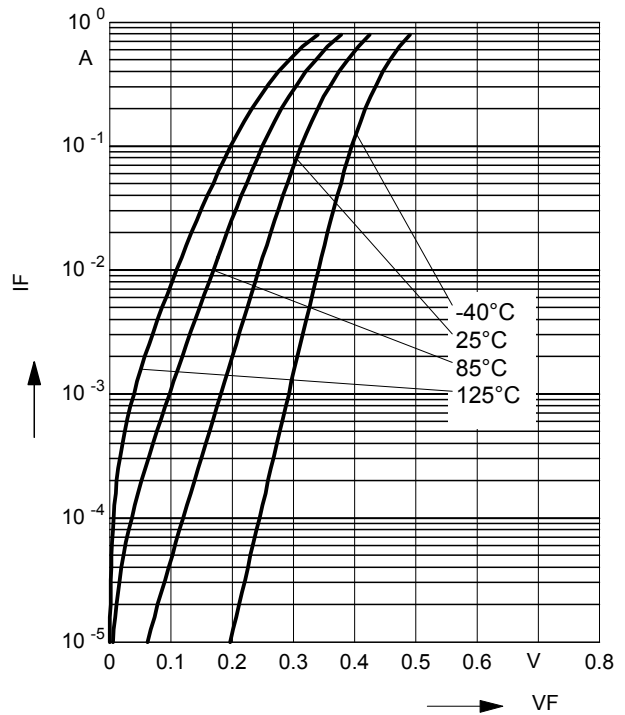
**Reverse current  $I_R = f(V_R)$**

$T_A =$  Parameter



**Forward current  $I_F = f(V_F)$**

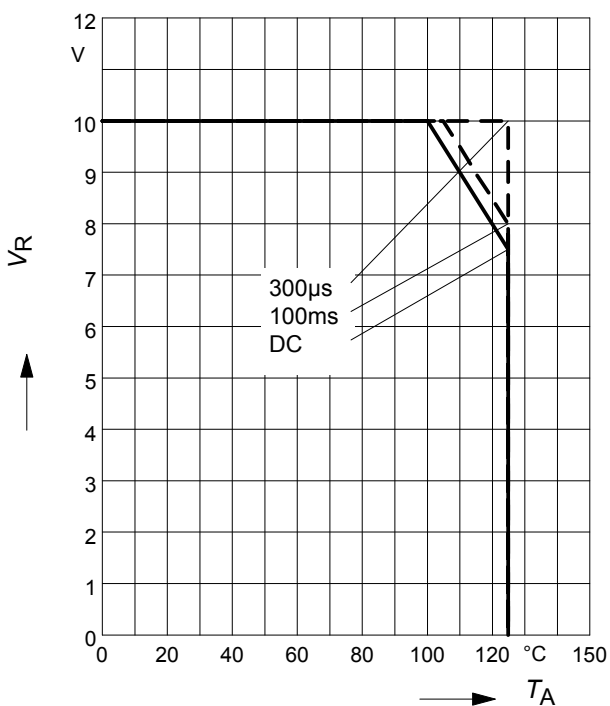
$T_A =$  Parameter



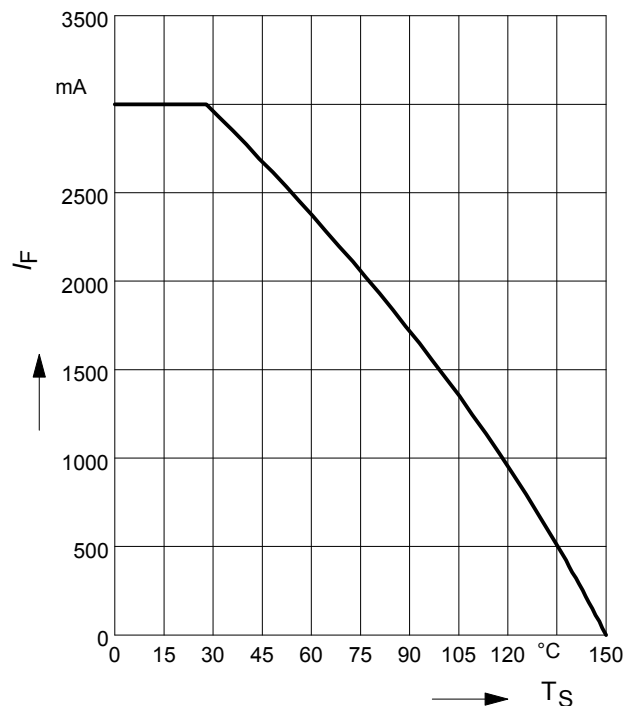
**Permissible Reverse voltage  $V_R = f(T_A)$**

$t_p =$  Parameter; duty cycle  $< 0.01$

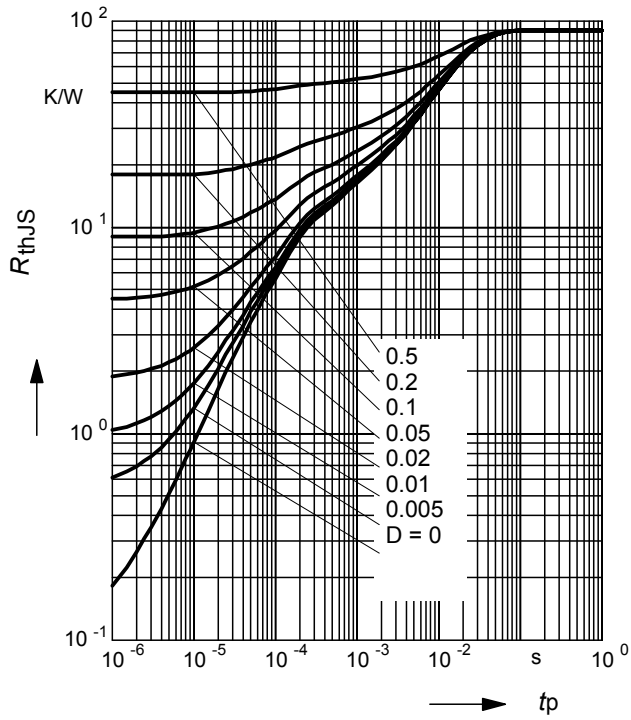
Device mounted on PCB with  $R_{th} = 160$  K/W



**Forward current  $I_F = f(T_S)$**



Permissible Puls Load  $R_{thJS} = f(t_p)$



Permissible Pulse Load

$I_{Fmax} / I_{FDC} = f(t_p)$

